

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 01 June 2001 (01.06.01)	
International application No. PCT/GB00/03396	Applicant's or agent's file reference P10954PC/AS/AM
International filing date (day/month/year) 04 September 2000 (04.09.00)	Priority date (day/month/year) 04 September 1999 (04.09.99)
Applicant MARTIN, Andrew	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 26 March 2001 (26.03.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

AS

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITYPTO/PCT Rec'd 04 MAR 2002
PCT

To:

SHANKS, Andrew et al.
CRUIKSHANK & FAIRWEATHER
19 Royal Exchange Square
Glasgow G1 3AE
GRANDE BRETAGNENOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)Date of mailing
(day/month/year)

20.11.2001

Applicant's or agent's file reference

AS/DM/P10954PC

IMPORTANT NOTIFICATION

International application No.
PCT/GB00/03396International filing date (day/month/year)
04/09/2000Priority date (day/month/year)
04/09/1999

Applicant

MARTIN, Andrew

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
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Authorized officer

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AS/DM/P10954PC		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/03396	International filing date (day/month/year) 04/09/2000	Priority date (day/month/year) 04/09/1999	
International Patent Classification (IPC) or national classification and IPC E21B41/00			
Applicant MARTIN, Andrew			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.18 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 5 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input checked="" type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 			
Date of submission of the demand 26/03/2001		Date of completion of this report 20.11.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80289 Munich Tel. +49 89 2399 - 0 Tx: 523666 epmu d Fax: +49 89 2399 - 4465		Authorized officer DIAZ, M Telephone No. +49 89 2399 7534 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**International application No. **PCT/GB00/03396****I. Basis of the report**

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-13 as originally filed

Claims, No.:

1-28 as received on 07/11/2001 with letter of 18/10/2001

Drawings, No.:

1-3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/03396

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Yes:	Claims	1-28
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-28
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-28
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/03396

Re Item V**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 1) D1 (US-A-5 004 051) discloses a method of storing and transporting drilling waste produced in an offshore drilling operation (see claim 17, lines 32-34), the method comprising the steps of:
- providing a moveable container for receiving drilling waste (see column 2, lines 9-10 and column 2, lines 51-57);
 - securing the container, in a position below sea-level (see claim 17, lines 36-38);
 - connecting the container to a drilling platform or vessel and conveying drilling waste from the platform or vessel to the container (see claim 17, lines 48-49).

The problem may be regarded as how to provide a container maintained underwater and above the seabed, which is protected from the adverse weather conditions.

This problem is solved in the known method by the distinguishing feature of claim 1: container of adjustable buoyancy. This feature is neither known nor suggested by the prior art documents and solve the above mentioned problem by adjusting the buoyancy of the container in such way that it is suspended at a depth between the sea surface and the seabed.

The same problem and solution applies for the apparatus claim 16 which includes the same distinguishing feature. Consequently, the subject-matter of claims 1 and 16 meets the requirements of Art. 33(2)-(4) PCT.

- 2) Claims 2-15 and 17-28 are dependant from 1 and 16 respectively and define preferred embodiments. They also meet the requirements of Article 33(2)-(4) PCT.

Re Item VII**Certain defects in the international application**

- Rule 6.3 (b) PCT: correct two-part form of independant claims 1 and 16 with regard to

INTERNATIONAL PRELIMINARY

International application No. PCT/GB00/03396

EXAMINATION REPORT - SEPARATE SHEET

D1.

- Rule 6.2 (b) PCT.

- Rules 5.1 (a) (ii) PCT reference to the documents D1 and D2 and its disclosure.

- The unit of measure (feet) employed on page 11 is not additionally expressed in terms of the units stipulated by Rule 10.1(a) PCT.**Re Item VIII****Certain observations on the international application**

Claim 17 reads "The apparatus of claim 16 wherein the securing means comprises an anchor means to be attached to the sea bed. comprises an anchor means to be attached to the sea bed." and the repetition of the last sentence is not clear (Art. 6 PCT).

PROPOSED PRELIMINARY AMENDMENT

CLAIMS

1. A method of storing and transporting drilling waste produced in an offshore drilling operation, the method comprising the steps of:

providing a moveable container of adjustable buoyancy for receiving drilling waste;

securing the container in a position below sea-level;

connecting the container to a drilling platform or vessel; and

conveying drilling waste from the platform or vessel to the container.

2. The method of claim 1, further comprising the steps of:

releasing the container from its position; and

transporting the container to a drilling waste recycling facility.

3. The method of claim 1 [or 2] wherein at least two containers are provided.

4. The method of [any preceding claim] claim 1 further

comprising the step of agitating the drilling waste within the container.

5. The method of claim 4 wherein the agitation step comprises rotating or otherwise moving the container in the water.

6. The method of claim 5 wherein the container is provided with external fins or the like which tend to rotate or move the container in response to sea currents.

7. The method of [any preceding claim] claim 1 comprising the step of securing the container in position by anchoring the container to the seabed.

8. The method of [any preceding claim] claim 1 further comprising the step of adjusting the buoyancy of the container, to maintain the container at a substantially constant depth.

9. The method of [any preceding claim] claim 1 comprising the step of releasably fixing the container to the sea floor.

10. The method of [any preceding claim] claim 1 further comprising the step of conveying drilling waste to a

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smaller volume holding tank on the platform, prior to conveying the waste to the container.

11. The method of [any preceding claim] claim 1 comprising the step of macerating the drilling waste prior to conveying the waste to the container.

12. The method of [any preceding claim] claim 1 further comprising the step of determining selected parameters of the waste [prior] and then adjusting said parameters before conveying the waste to the container.

13. The method of [any preceding claim] claim 1 further comprising the step of adding oil to the drilling waste prior to conveying the waste to the container.

14. The method of [any preceding claim] claim 1 further comprising the step of agitating the contents of the container whilst the container is transported to a treatment facility.

15. The method of [any preceding claim] claim 1 further comprising the steps of:

providing an additional container; and

maintaining at least one container at the platform or vessel.

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16. An apparatus for use in storage and transport of drilling waste, the apparatus comprising a moveable container of adjustable buoyancy for containing drilling waste; securing means for releasably securing the container in position below sea level; and connection means for connecting the container to a drilling platform or vessel.

17. The apparatus of claim 16 wherein the securing means comprises an anchor means to be attached to the sea bed.

18. The apparatus of claim 17 wherein the anchor means comprises a base to be located on the seabed, configured so as to receive and retain at least one container.

19. The apparatus of any [one of claims 16 to 18] claim 16 wherein the container comprises agitation means, to enable the contents of the container to be agitated.

20. The apparatus of claim 19 wherein the agitation means comprises an internal rotating paddle.

21. The apparatus of claim 19 [or claim 20] wherein the agitation means comprises external fins mounted on the container, such that the container rotates in response to sea currents.

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22. The apparatus of [any one of claims 16-21] claim 16 wherein the container comprises a double skin, with a cavity between the skins which may be filled with air or seawater as desired, in order to adjust buoyancy.

23. The apparatus of [any one of claims 16 to 22] claim 16 wherein the connection means comprises a flexible conduit for conveying drilling waste.

24. The apparatus of claim 23 wherein a plurality of flexible conduits are provided.

25. The apparatus of [any one of claims 16 to 24] claim 16 further comprising a holding tank for holding drilling waste prior to conveying the waste to the container.

26. The apparatus of [any of claims 16 to 25] claim 16, further comprising a macerator.

27. The apparatus of [any of claims 16 or 26] claim 16 further including means for determining selected parameters of the drilling waste.

28. The apparatus of [any of claims 16 to 27] claim 16, further comprising means for adding oil to the drilling waste.

29. (New) A method of storing and transporting waste produced in the course of offshore operations, the method comprising the steps of:

providing a moveable container of adjustable buoyancy for receiving waste;

securing the container in a position below sea-level;

connecting the container to an offshore structure;

and

conveying waste from the structure to the container.

30. (New) An apparatus comprising a moveable container of adjustable buoyancy for containing waste; securing means for releasably securing the container in position below sea level; and connection means for connecting the container to an offshore structure.

DRILLING WASTE HANDLINGABSTRACT

A method and an apparatus for storage and transport of drilling waste is provided. A number of storage containers
5 12 are anchored to the sea bed by means of anchors 15 and cables 13. The location of the containers 12 is marked with buoys 17. The containers 12 are of adjustable buoyancy, and are arranged to remain below the surface of the sea. Drilling waste is macerated on board a drilling
10 vessel 18, and pumped via conduits 20 into the containers 12. Once the containers 12 are full, a tug 22 collects the containers 12 and transports them to an onshore waste recycling facility, while empty tanks are returned to the drilling vessel 18 to be reused. The containers 12 may be
15 arranged to agitate stored waste, either by means of an internal agitator, or by virtue of fins or paddles mounted on the containers 12, to rotate the containers in response to sea currents.

DYKAS, SHAVER & NIPPER, LLP**PATENT ♦ TRADEMARK ♦ COPYRIGHT ♦ INTERNATIONAL**

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March 4, 2002

Assistant Commissioner
United States Patent and
Trademark Office
Washington, D.C. 20231

Re: PCT Application No. PCT/GB00/03396
Filing Date: September 4, 1999
Attorney Docket No. MARA101

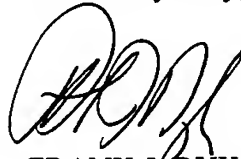
Dear Assistant Commissioner:

Please amend the applicant's address to read as follows:

Andrew Martin
GAIA LODGE
Blairs
Aberdeen
Scotland
AB12 5YT
UNITED KINGDOM

An Oath and Declaration is forthcoming from said Applicant, who is currently unavailable.

Yours very truly,





FRANK J. DYKAS
Registered Patent Attorney
Reg. No. 28,072

FJD/smw

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AS/DM/P10954PC	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/03396	International filing date (day/month/year) 04/09/2000	Priority date (day/month/year) 04/09/1999
International Patent Classification (IPC) or national classification and IPC E21B41/00		
Applicant MARTIN, Andrew		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 5 sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the reportII <input type="checkbox"/> PriorityIII <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input checked="" type="checkbox"/> Certain defects in the international applicationVIII <input checked="" type="checkbox"/> Certain observations on the international application		
Date of submission of the demand 26/03/2001	Date of completion of this report 20.11.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer DIAZ, M Telephone No. +49 89 2399 7534 	

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/03396

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
Description, pages:

1-13 as originally filed

Claims, No.:

1-28 as received on 07/11/2001 with letter of 18/10/2001

Drawings, No.:

1-3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/03396

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-28
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-28
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-28
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1) D1 (US-A-5 004 051) discloses a method of storing and transporting drilling waste produced in an offshore drilling operation (see claim 17, lines 32-34), the method comprising the steps of:
- providing a moveable container for receiving drilling waste (see column 2, lines 9-10 and column 2, lines 51-57);
 - securing the container, in a position below sea-level (see claim 17, lines 36-38);
 - connecting the container to a drilling platform or vessel and conveying drilling waste from the platform or vessel to the container (see claim 17, lines 48-49).

The problem may be regarded as how to provide a container maintained underwater and above the seabed, which is protected from the adverse weather conditions.

This problem is solved in the known method by the distinguishing feature of claim 1: container of adjustable buoyancy. This feature is neither known nor suggested by the prior art documents and solve the above mentioned problem by adjusting the buoyancy of the container in such way that it is suspended at a depth between the sea surface and the seabed.

The same problem and solution applies for the apparatus claim 16 which includes the same distinguishing feature. Consequently, the subject-matter of claims 1 and 16 meets the requirements of Art. 33(2)-(4) PCT.

- 2) Claims 2-15 and 17-28 are dependant from 1 and 16 respectively and define preferred embodiments. They also meet the requirements of Article 33(2)-(4) PCT.

Re Item VII

Certain defects in the international application

- Rule 6.3 (b) PCT: correct two-part form of independant claims 1 and 16 with regard to

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/03396

D1.

- Rule 6.2 (b) PCT.
- Rules 5.1 (a) (ii) PCT reference to the documents D1 and D2 and its disclosure.
- The unit of measure (feet) employed on page 11 is not additionally expressed in terms of the units stipulated by Rule 10.1(a) PCT.

Re Item VIII

Certain observations on the international application

Claim 17 reads "The apparatus of claim 16 wherein the securing means comprises an anchor means to be attached to the sea bed. comprises an anchor means to be attached to the sea bed." and the repetition of the last sentence is not clear (Art. 6 PCT).

CLAIMS

1. A method of storing and transporting drilling waste produced in an offshore drilling operation, the method comprising the steps of:

5 providing a moveable container of adjustable buoyancy for receiving drilling waste;

securing the container in a position below sea-level;

connecting the container to a drilling platform or vessel; and

10 conveying drilling waste from the platform or vessel to the container.

2. The method of claim 1, further comprising the steps of:

releasing the container from its position; and

15 transporting the container to a drilling waste recycling facility.

3. The method of claim 1 or 2 wherein at least two containers are provided.

4. The method of any preceding claim further comprising the step of agitating the drilling waste within the container.

5. The method of claim 4 wherein the agitation step comprises rotating or otherwise moving the container in the water.

6. The method of claim 5 wherein the container is provided with external fins or the like which tend to rotate or move the container in response to sea currents.

7. The method of any preceding claim comprising the step of securing the container in position by anchoring the container to the seabed.

8. The method of any preceding claim further comprising the step of adjusting the buoyancy of the container, to maintain the container at a substantially constant depth.

9. The method of any preceding claim comprising the step of releasably fixing the container to the sea floor.

10. The method of any preceding claim further comprising the step of conveying drilling waste to a smaller volume holding tank on the platform, prior to conveying the waste to the container.

11. The method of any preceding claim comprising the step of macerating the drilling waste prior to conveying the waste to the container.

12. The method of any preceding claim further comprising the step of determining selected parameters of the waste prior and then adjusting said parameters before conveying the waste to the container.

5 13. The method of any preceding claim further comprising the step of adding oil to the drilling waste prior to conveying the waste to the container.

10 14. The method of any preceding claim further comprising the step of agitating the contents of the container whilst the container is transported to a treatment facility.

15. The method of any preceding claim further comprising the steps of:

providing an additional container; and

15 maintaining at least one container at the platform or vessel.

20 16. An apparatus for use in storage and transport of drilling waste, the apparatus comprising a moveable container of adjustable buoyancy for containing drilling waste; securing means for releasably securing the container in position below sea level; and connection means for connecting the container to a drilling platform or vessel.

17. The apparatus of claim 16 wherein the securing means comprises an anchor means to be attached to the sea bed.

16

comprises an anchor means to be attached to the sea bed.

18. The apparatus of claim 17 wherein the anchor means comprises a base to be located on the seabed, configured so as to receive and retain at least one container.

5 19. The apparatus of any one of claims 16 to 18 wherein the container comprises agitation means, to enable the contents of the container to be agitated.

20. The apparatus of claim 19 wherein the agitation means comprises an internal rotating paddle.

10 21. The apparatus of claim 19 or claim 20 wherein the agitation means comprises external fins mounted on the container, such that the container rotates in response to sea currents.

15 22. The apparatus of any one of claims 16-21 wherein the container comprises a double skin, with a cavity between the skins which may be filled with air or seawater as desired, in order to adjust buoyancy.

20 23. The apparatus of any one of claims 16 to 22 wherein the connection means comprises a flexible conduit for conveying drilling waste.

24. The apparatus of claim 23 wherein a plurality of

17

flexible conduits are provided.

25. The apparatus of any one of claims 16 to 24 further comprising a holding tank for holding drilling waste prior to conveying the waste to the container.

5 26. The apparatus of any of claims 16 to 25, further comprising a macerator.

27. The apparatus of any of claims 16 or 26 further including means for determining selected parameters of the drilling waste.

10 28. The apparatus of any of claims 16 to 27, further comprising means for adding oil to the drilling waste.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P10954PC/AS/AM	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/ 03396	International filing date (day/month/year) 04/09/2000	(Earliest) Priority Date (day/month/year) 04/09/1999
Applicant MARTIN, Andrew		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1 _____
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT 00/03396

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B41/00 E21B21/01 E21B21/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B B09B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

TULSA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 99 46474 A (MOORE) 16 September 1999 (1999-09-16) claim 1	1, 16
A	US 5 004 051 A (ROSENDAHL ET AL.) 2 April 1991 (1991-04-02) claims 1, 17	1, 16
A	GB 2 330 600 A (BAILEY) 28 April 1999 (1999-04-28) abstract	1, 16

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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

14 December 2000

Date of mailing of the international search report

19/01/2001

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Authorized officer

Rampelmann, K

INTERNATIONAL SEARCH REPORT

International Application No

PCT 00/03396

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	N.N.: "Unique design, strict operating rules mark Zuidwal field" OIL & GAS JOURNAL, vol. 86, no. 33, 15 August 1988 (1988-08-15), pages 44-46, XP002155493 tulsa, okla., usa page 46, figure entitled "Handling Zuidwal cuttings, liquid waste" -----	1,16
A	ARNHUS ET AL.: "Cuttings and waste mud disposal, paper no. SPE/IADC 21949" 1991 SPE/IADC DRILLING CONFERENCE, 11 - 14 March 1991, pages 461-472, XP002155494 Amsterdam, The Netherlands page 465, paragraph "Arrangement and system" ; page 468, paragraph "Logistics involved for cuttings transport to shore" -----	1,16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/00/03396

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9946474	A	16-09-1999	US	6062313 A	16-05-2000
			AU	3313399 A	27-09-1999
US 5004051	A	02-04-1991	GB	2236781 A,B	17-04-1991
			NO	173521 C	22-12-1993
GB 2330600	A	28-04-1999	AU	9551098 A	17-05-1999
			WO	9922113 A	06-05-1999